

PMD (UK) LTD PROCESS DATA

PMD (UK) Ltd, Broad Lane, Coventry, CV5 7AY, England. Telephone 024 7646 6691 Fax 024 7647 3034
Web Site: www.pmdgroup.co.uk Email: sales@pmdgroup.co.uk

ALZON – 04/00
ISSUE 1
PREV

PMD ALZON

INTRODUCTION

PMD Alzon has been specifically developed to produce, by immersion, a thin, tightly adherent zinc alloy film on aluminium. This film provides a first class adhesion undercoat for electroless nickel and other electroplating processes.

PMD Alzon is supplied as a 3 part process:

PMD Alzon RFU	Ready to use solution
PMD Alzon Replenisher Part 1	Replenishment additive
PMD Alzon Replenisher Part 2	Replenishment additive

BENEFITS

Long solution life.

Consistent coatings.

Excellent solution stability.

SOLUTION MAKE-UP

PMD Alzon RFU is a ready to use solution.

OPERATING DATA

Zinc Metal	5.5 – 6.5 g/l
PMD Alzon Replenisher Part 2	40 - 60 g/l
Immersion Time	30 – 120 secs
Temperature	20 – 30°C

EQUIPMENT

Tanks	PVC lined or polypropylene.
Heaters	Stainless steel (316)
Extraction	Essential.

**ALZON-04/00
ISSUE 1**

INSTALLATION

It is essential that the tanks to be used are thoroughly clean and free from all foreign matter.

1. PMD Alzon comes as a ready to use solution.

Note

Gloves and eye protection should be used.

PROCESS SEQUENCE

See notes on pre-treatment.

MAINTENANCE AND CONTROL

For small volume users of PMD Alzon the long life of the process will make it more economical to dump and replace rather than analyse and replenish.

For large volume users replenishment can be carried out by the addition of PMD Alzon Replenisher Part 1 and PMD Alzon Replenisher Part 2, according to analysis.

ANALYSIS METHODS

PMD Alzon Replenisher Part 1

This analysis is based on zinc metal content. Analysis of the PMD Alzon bath is carried out using atomic absorption spectrophotometry.

Zinc Metal 5.5 – 6.5 g/L

Replenishment

To increase zinc content by 1 g/l add 15 mls/l PMD Alzon Replenisher Part 1.

Add the required amount of PMD Alzon Replenisher Part 1 to the working bath with constant stirring.

**ALZON-04/00
ISSUE 1**

PMD Alzon Replenisher Part 2

It is recommended that this analysis is not titrated to an acid end point to prevent the discharge of poisonous cyanide gases.

Reagents

1N sulphuric acid (standard volumetric solution)
Phenolphthalein indicator.

Method

1. Pipette 10 mls of working solution into a 250 ml conical flask.
2. Add 50 mls deionised water and 2 drops phenolphthalein indicator.
3. Tritrate using 1N sulphuric acid from a pink colour to a green colour.
4. Record titre = t mls.

Calculation

$t \times 4 = \text{g/l PMD Alzon Replenisher Part 2}$

Replenishment

For every 1 g/l low add 1g/l PMD Alzon Replenisher Part 2

NOTES

Pre Treatments

Aluminium alloys vary considerably in their make up and selecting the right pre treatment chemistry is of paramount importance to ensure optimum adhesion of the electroless nickel or electro plated deposits.

A typical sequence is as follows:

1. Soak clean. PMD Cleaner 505
2. Cold water rinse.
3. Acid etch 50% nitric acid containing 50 g/L PMD Econovate A. Room temperature, 30 secs.
4. Cold water rinse.
5. Cold water rinse.
6. PMD Alzon, 60 secs at 20 - 30°C
7. Cold water rinse.
8. Zincate strip 50% nitric acid.
9. Cold water rinse.
10. Cold water rinse.
11. PMD Alzon, 45 secs at 20 - 30°C
12. Cold water rinse.
13. Cold water rinse.
14. Electroless or electro nickel plate.

**ALZON-04/00
ISSUE 1**

DISPOSAL

Dispose of in accordance with local authority requirements.

PRODUCT FAMILIES

The following products or product families are referred to in this technical data sheet.

<u>Product Names</u>	<u>Product Number</u>
PMD Cleaner 505	206001
PMD Econovate A	223004
PMD Alzon RFU	228001
PMD Alzon Replenisher Part 1	225002
PMD Alzon Replenisher Part 2	228002

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